I V H S A M E R I C A

Intelligent Vehicle Highway Society of America

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ORIGINAL
FILE

August 7, 1992

Ms. Donna Searcy
The Secretary
Federal Communications Commission
Washington, D.C. 20554

Dear Ms. Searcy:

The Intelligent Vehicle Highway Society of America (IVHS AMERICA) forwards herewith our Reply Comments in Opposition to a Petition for Rulemaking (No.8013) by North American Teletrac, et al, submitted on May 28, 1992, that suggests revisions to Rules for the 902-928 Mhz band under CFR 47 Part 90.239.

IVHS AMERICA is the institutional embodiment of the IVHS Community. (Please refer to membership list, Attachment 2). IVHS AMERICA's mission is to initiate, coordinate and foster a public-private partnership for the development of IVHS in the United States. We are incorporated as a 501(c)(3) Scientific/Educational organization, and are a utilized Federal Advisory Committee to the U.S. Department of Transportation for IVHS matters.

If you have any technical questions regarding this submittal, please contact Mr. D.J. Chadwick of the MITRE Corporation at (703)883-7010. Matters related to policy or administration may be addressed to my office.

Very Truly Yours,

James Costantino
Executive Director
IVHS AMERICA

Attachments:
(1) Comments in opposition
(2) IVHS AMERICA Membership List

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C.

In the Matter of	)	
	)	
Opposition to the Proposed Amendment of	)	
Section 90.239 of the Commission's Rules	)	**No. _____**
Set Forth by North American Teletrac and	)	
Location Technologies, Inc. in Their Petition	)	
For Rulemaking # 8013 Dated May 26, 1992.	)	

To: The Commission

REPLY COMMENTS IN OPPOSITION TO PETITION FOR RULEMAKING No. 8013

SUBMITTED BY

NORTH AMERICAN TELETRAC AND LOCATION TECHNOLOGIES, INC.

Prepared for

The Intelligent Vehicle Society of America
(IVHS AMERICA)
Washington, D.C.

by
The MITRE Corporation
McLean, Virginia

Dated: August 7, 1992

Reply Comments in Opposition to Proposed Rulemaking

The Intelligent Vehicle Highway System (IVHS) Program

The aim of the IVHS program is to apply advanced concepts and technology in the areas of communications, controls, navigation and information systems to reduce highway congestion, improve highway safety and render highway traffic more compatible with the environment. The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 emphasizes the importance of IVHS, and provides substantial funding for the program. IVHS holds the promise for improving the nation's international competitiveness by allowing us to more efficiently move goods and services over the North American continent.

The IVHS program has evolved to include five major system areas. Each of these five focuses on different applications of IVHS technology to highway system needs.

Advanced Traffic Management Systems (ATMS): permit real-time adjustment of traffic control systems to adapt to traffic conditions that result from special events or incidents, and represent the "smart highway" part of IVHS. Their application in selected corridors has reduced delay, overall travel time and accidents. ATMS is being implemented using coordinated signal systems, video surveillance, ramp metering, automated toll collection [which depends on Automated Vehicle Identification (AVI) devices that currently operate in the 902-928 MHz band], ramp meters and variable message signs. The single most important component of any traffic management system is *surveillance*. To manage traffic, the system has to know where the problems are. AVI systems are an important surveillance capability in the overall system design.

Advanced Traveler Information Systems (ATIS): deal with the acquisition, analysis, communication, presentation and interpretation of information important to the traveler, to assist the surface transportation user in moving between origin and destination in a way that best meets individual requirements for route, safety, efficiency and comfort. These systems support the generation of optimal routes, and by monitoring traffic information from the ATMS, accommodate the real-supports in-vehicle signing, which will grow in importance as our driving population ages.

Commercial Vehicle operations (CVO): expedite deliveries, improve operational efficiency, improve incidents response and increase safety. CVO reduces regulatory burdens on commercial operators and fleets through capabilities such as weigh-in-motion, automated toll collection, automated driver and vehicle permitting and vehicle tracking - *all of which depend on AVI systems*. Because of the immediate economic advantages of these systems, their implementation has led other IVHS areas by several years. The availability of these AVI systems to accelerate the implementation of CVO services has been due in large part to the fact that frequencies have been available to support them. Simple, low-cost systems have evolved that serve that needs of commercial operators (including public safety).

Advanced Public Transportation Systems (APTS): work in conjunction with ATMS and ATIS to provide mass transit users and operators with the tools to increase ridership and efficiency and thereby lower cost. Given that IVHS alone cannot solve all transportation problems, intermodal solutions are critical. IVHS technologies can be applied to give riders very accurate time-of-arrival information at their stop, to provide passengers with rapid response to medical emergencies and to better inform commuters of mass transit opportunities that provide convenience and schedule reliability that rival those of the personal automobile. As with ATMS, ATIS and CVO, APTS depends heavily on AVI systems.

Advanced Vehicle Control Systems (AVCS): are vehicle- roadway-based devices that enhance the control of a vehicle by facilitating and augmenting driver performance. In the future, AVCS may even relieve the driver of some routine driving tasks on designated, instrumented roadways.

The Benefits of IVHS

Under a phased implementation, IVHS is expected to offer the following benefits to our Surface Transportation System:

- Improved Safety
- Reduced Congestion
- Increased and Higher Quality Mobility
- Improved Environmental and Energy Efficiency
- Improved incident response to victims of various emergencies.
- Improve the international competitiveness of the United States and improve the profitability of the commercial fleet and public transit providers.

Specific Comments in Opposition to Teletrac's Petition for Rulemaking

1. IVHS depends heavily on the availability of simple, low-cost Automated Vehicle Identification\Monitoring Systems to support nearly all of its functional areas. Most of these systems have been developed using "narrowband" technology because of its inherently lower cost and complexity. Restraint of further development in this area will only serve to reduce the diversity of systems that are available to the public and to increase their cost. Since the major portion of the cost of IVHS systems (the in-vehicle components) will be borne by the general public, component cost is of critical concern.

2. A purported advantage of wideband communications technologies is their "immunity" to in-band interference, and it is the reason that such systems have historically been allotted such a

large segment of spectrum; that is, they were alleged to be able to coexist with narrow band systems without causing or receiving unacceptable degradation. For Teletrac to now claim a need for "protection" from interference appears to invalidate the basic reason for their wideband frequency assignments. If they fail to offer compatibility with other systems in exchange for an unprecedented 8 Mhz of spectrum, a question is raised on the cost/benefit of their technical approach.

3. Relegating narrow band systems to limited portions of the spectrum will stifle the development of a variety of inherently lower-cost alternatives, and reduce the number of such systems that can be accommodated in the band. This translates directly into reduced capacity for such systems, a condition that will detract from the functionality (and hence delivered benefits) of IVHS systems, nationwide.

The US Department of Transportation, various state DOTs, numerous private companies and universities are currently conducting research and operational field tests to determine the optimal technology for the various IVHS applications. These public/private partnerships will be the means by which we carry out the mandates posed by the IVHS Act of the Intermodal Surface Transportation Efficiency Act of 1991.

In summary, IVHS AMERICA supports the need for AVI/AVM systems, but asks Commission to deny the Petition of Teletrac, et al, and to allow the coexistence of narrow- and wide-band AVI/AVM systems in the 902-928 Mhz band. As a means of fully debating the issue of spectrum management in this important band, we suggest that the Commission consider releasing a Notice of Inquiry on the subject.

IVHS AMERICA
ORGANIZATION MEMBERSHIP LIST

July 17, 1992

Abratique & Associates
Allied-Signal, Inc.
Alpine Electronics Manufacturing of America, Inc.
ALTA Technology, Inc.
American Association of Motor Vehicle Administrators
American Association of State Highway
and Transportation Officials
American Automobile Association
American Consulting Engineers Council
American Council of Highway Advertisers
American Honda Motor Co., Inc.
American Public Works Association
American Telephone & Telegraph
Ameritech Mobile Communications, Inc.
AMTECH Corporation
Ann Arbor Transit District
Arizona Department of Transportation
Association of Electronic Technology for
Automobile Traffic and Driving (JSK)
AT/COMM, INC.
The ATA Foundation, Inc.
Autostrade SPA (Italy)
AWA Traffic Systems America

Barton-Aschman Associates, Inc.
Battelle
Bell Atlantic Mobile Systems
Bellomo-McGee, Inc.
Booz Allen & Hamilton, Inc.
Bosch Corporation
British Columbia Ministry of Transportation & Highways
BRW, Inc.

California Department of Transportation
Cambridge Systematics, Inc.
Castle Rock Consultants
Centre d' Etudes de Recherches de Toulouse (France)
Charles River Associates Inc.
Chrysler Motors
City of Anaheim (CA)
City of Atlanta, Department of Public Works
City of Columbus (OH)
City of Irvine (CA)
City of New York Department of Transportation
City of Tucson (AZ)

Clarion Corporation of America
COFIROUTE (France)
Colorado Department of Transportation
Command Systems Group, Inc.
CommuteTech
Computer Communications and Graphics Associates, Inc.
Computer Methods Corporation
Computran Systems Corporation
Comsis Corporation
Connecticut Department of Transportation
Control Technologies, Inc.
Council of University Transportation Centers
Cubic Toll Systems
Cue Network Corporation

Danish Ministry of Transport
Delaware Transportation Authority
DeLeuw Cather, Inc.
DKS Associates

Edwards & Kelcey, Inc.
ENO Transportation Foundation
ERTICO
Etak, Inc.

Farradyne Systems, Inc.
Fiat Auto Research & Development USA
Fiberoptic Display Systems
Florida Department of Transportation
Ford Motor Company, Inc.
Frederic R. Harris, Inc.
Fujitsu Ten Limited

Galaxy Microsystems, Inc.
GEC Traffic
Geico Philanthropic Foundation
General Motors Corporation
George Klaudis Associates
George Mason University
Georgia Institute of Technology
GTE Telecommunications Products and Services

Harris Corporation
Haugen Associates
Highway Industry Development Organization (Japan)
Highway Users Federation
Hyundai America Technical Center, Inc.

Ian Catling Consultancy Limited
IBI Group
IBM
Illinois Department of Transportation
IMRA America, Inc.
Indiana Department of Transportation
INRETS (France)
Institute of Transportation Engineers
Intergraph Corporation
Intermetrics, Inc.
International Bridge, Tunnel & Turnpike Association
International Municipal Signal Association
Iowa State University
IVHS Technologies, Inc.

Japan Traffic Management Technology Association
Jet Propulsion Laboratory
JETRO New York
JHK & Associates

Kentucky Transportation Cabinet
Kessmann & Associates
Kiewit Network Technologies, Inc.
Kimley-Horn and Associates, Inc.
KLD Associates, Inc.
KSI

Lawrence Livermore National Laboratory
Lee Engineering, Inc.
Leica Technologies, Inc.
Lockheed Information Management Services Company
Los Angeles City Department of Transportation
Louisiana Transportation Research Center

3M Company - Traffic Control Materials Division
Mark IV Transportation Products
Marketing Resource Concepts
Maryland Department of Transportation
Massachusetts Institute of Technology
Matsushita Electric Industrial Co., Ltd. (Panasonic Industrial)
Mazda Motor Corporation
Michael Baker Jr., Inc.
Michigan Department of Transportation
Microwave Sensors, Inc.
Minnesota Department of Transportation
Missouri Highway and Transportation Department
The MITRE Corporation
Mitsubishi Electric Corporation

Mitsubishi Motors Corporation
Mobile Vision
Montgomery County (MD)
Motor Vehicle Manufacturers Association of the U.S., Inc. (MVMA)
Motorola, Inc.
Municipality of Metropolitan Seattle (METRO)

National Association of Counties
National Engineering Technology Corporation
National Private Truck Council
Navigation Technologies Corporation
National Electrical Manufacturers Association
(Traffic Control Systems Section)
New Jersey Alliance for Action
New Jersey Department of Transportation
New Jersey Institute of Technology
New Jersey Transit Bus Operations
New Mexico Highway & Transportation Department
New Mexico Taxation & Revenue Department
New York State Department of Transportation
Nichimen America Inc.
Nippondenso Co., Ltd.
Nissan Motor Corporation

Oakland (CA) Metropolitan Transportation Commission
Oakland County (MI) Road Commission
Oak Ridge National Laboratory
Ohio Department of Transportation
OKI Telecom
Ontario Ministry of Transportation
Orange County Transportation Authority
Orbital Communications Corporation
Owner-Operator Independent Drivers Association, Inc.

The Palisades Group
Parsons Brinckerhoff Quade & Douglas, Inc.
Peek Traffic
Pennsylvania Department of Transportation
Pennsylvania State University (Pennsylvania Transportation Institute)
Penske Transportation
Pennsylvania Turnpike Commission
Pinpoint Communications, Inc.
The Port Authority of New York & New Jersey
Princeton University
PROMETHEUS
PULSE-COM Corporation

Quebec Ministry of Transportation

Rand McNally & Company
Raytheon Company
Rijkswaterstaat (Holland)
Road Watch America
Robert L. French & Associates
Rockwell International Corporation

Safetran Traffic Systems, Inc.
San Diego Service Authority for Freeway Emergencies
SCAN
Science Applications International Corporation
SEI Software & Systems Integration
Shadow Information Systems
Siemens Automotive
Sills Cummis Zuckerman Radin Tischman Epstein & Gross
Skyline Products, Inc.
SmartRoute Systems, Inc.
Societa Autostrade
Society of Automotive Engineers
South Carolina Department of Highways
& Public Transportation
SRI International
Sumitomo Electric U.S.A., Inc.
Sutter Bay Associates
Swedish National Road Administration

Tele Atlas International BV
Texas Instruments, Inc.
Texas State Department of Highways & Public Transportation
Texas A&M University (Texas Transportation Institute)
Toyota Motor Corporation
Transportation Association of Canada
Transportation Research Board
TRANSROUTE International SA (France)
Triborough Bridge and Tunnel Authority (New York)
Trimble Navigation Limited
TRW Inc.
TRX Transtel

Union Pacific
University of California at Berkeley (Institute of Transportation
Studies/Program on Advanced Technology for the Highway/PATH)
University of Florida (Transportation Research Center)
University of Kentucky
University of Maryland (Transportation Studies Center)
University of Massachusetts
University of Michigan
University of Minnesota

University of New Mexico (Alliance for Transportation Research)
University of North Carolina (Institute for Transportation Research)
University of Southern California (Center for Advanced Transportation Technologies)
University of South Florida (Center for Urban Transportation Research)
University of Texas at Austin
Urban Mobility Corporation
U.S. Department of Transportation

Virginia Department of Transportation
Virginia Polytechnic Institute and State University
Volvo Cars of North America

Washington State Department of Transportation
Westinghouse Electric Corporation
Wilbur Smith Associates, Inc.
Wisconsin Department of Transportation

Xanavi Informatics Corporation (Japan)

Zexel Technologies USA., Inc.